

## REMARKS

This Amendment is submitted in response to the non-final Office Action mailed on May 16, 2008. A petition for a one month extension of time is submitted herewith. The Director is authorized to charge the amount of \$120.00 for the cost of the petition for a one month extension of time and any additional fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 112857-711 on the account statement.

Claims 14-26 are pending in this application. Claims 1-13 were previously canceled without prejudice or disclaimer. In the Office Action, the drawings are objected to. Claims 14-17 and 25-26 are rejected under 35 U.S.C. §102. Claims 18-24 are rejected under 35 U.S.C. §103. In response, Claims 14, 23 and 25-26 have been amended. Applicants note that dependent Claims 18-23 have been amended solely for clarification purposes. These amendments do not add new matter. Claims 27-31 have been newly added. These Claims do not add new matter. At least in view of the amendments and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, the drawings are objected to for minor informalities. See, Office Action, page 2, lines 1-4. In response, Applicants have added a legend stating "Prior Art" to Figures 1 and 2. Thus Applicants respectfully submit that the objection to Figures 1 and 2 be withdrawn.

In the Office Action, Claims 14-17 and 25-26 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent Application No. 2004/0109663 A1 to Olczak ("*Olczak*"). In response, Applicants have amended independent Claims 14 and 25-26. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that *Olczak* fails to disclose or suggest each and every element of the present claims.

Currently amended independent Claims 14 and 25-26 recite, in part, an optical sheet comprising a plurality of cylindrical lens elements provided successively in a row on one of principal faces of said optical sheet, wherein if a Z axis is taken in parallel to a normal line direction to said optical sheet and an X axis is taken in a direction of the row of said cylindrical lens elements, a cross sectional shape in the XZ plane of each of said cylindrical lens elements satisfies the following expression:  $Z = X^2 / (R + \sqrt{R^2 - (1 + K)X^2}) + AX^4 + BX^5 + CX^6 + \dots$ , where R is the radius of curvature of a distal end vertex, K is a conic constant, and A, B, C, ...

are aspheric coefficients. These amendments do not add new matter. The amendments are supported in the Specification at, for example, Abstract, lines 6-11; paragraph 16, lines 10-14; paragraph 109, lines 1-7 and 10-15; paragraph 112, lines 1-7; paragraph 165, lines 1-8; paragraph 175, lines 1-8; and Figs. 9, 11, 13, 15, 17, 19 and 21.

Due to recent market demands, it is desirable to provide a liquid crystal display apparatus which has increased luminance and low power consumption. See, Specification, paragraph 2, lines 1-5. Prior art liquid crystal display apparatuses are manufactured utilizing a prism sheet which includes a prism array on the emitting side of illumination light. See, Specification, paragraph 2, lines 7-11. However, in a conventional prism sheet, some of the light flux emitted from an off-axis imaginary light source is totally reflected by one of the lateral faces of a prism and then transmitted through the other lateral face to create a second-order transmission light component which is emitted outside the effective angular field of view of the liquid crystal panel. See, Specification, paragraph 8, lines 1-7. The second-order transmission light component does not improve the luminance of the liquid crystal display apparatus. See, Specification, paragraph 8, lines 7-9. Most of the second-order transmission light is generated when light incident from an oblique direction with respect to a principal surface of a prism sheet is totally reflected by one of the faces of the prism and then transmitted through the other face of the prism. See, Specification, paragraph 14, lines 10-15. Therefore, the present claims provide an optical sheet comprising a large number of cylindrical lens elements provided in a row on one of the principal faces of the optical sheet. See, Specification, paragraph 18, lines 1-6. As embodied by the claims and further supported in the Specification, the cylindrical lens elements have leftwardly and rightwardly symmetrical hyperboloidal or paraboloidal faces such that an XZ cross section of each lens element satisfies the claimed expression. See, Specification, paragraph 109, lines 1-7; paragraph 112, lines 1-4. By providing a lens element with an XZ cross section that satisfies the claimed expression, light incident from a sideward direction is totally reflected by both faces, thereby reducing the amount of second-order transmission light produced as embodied by the claims and further supported in the Specification. See, Specification, paragraph 168, lines 1-10; paragraph 172, lines 1-6; paragraph 173, lines 1-13. In contrast, *Olczak* fails to disclose or suggest every element of the present claims.

For example, *Olczak* fails to disclose or suggest a plurality of cylindrical lens elements wherein if a Z axis is taken in parallel to a normal line direction to said optical sheet and an X

axis is taken in a direction of the row of said cylindrical lens elements, a cross sectional shape in the XZ plane of each of said cylindrical lens elements satisfies the following expression:  $Z = X^2/(R + \sqrt{R^2 - (1 + K)X^2}) + AX^4 + BX^5 + CX^6 + \dots$ , where R is the radius of curvature of a distal end vertex, K is a conic constant, and A, B, C, ... are aspheric coefficients as recited, in part, by currently amended independent Claims 14 and 25-26. The Examiner asserts that *Olczak* discloses an optical sheet comprising cylindrical lens elements having an XZ cross-sectional shape that satisfies the claimed expression. See, Office Action, page 2, lines 20-24; page 3, lines 1-4. However, the portions of *Olczak* relied on by the Examiner merely disclose that a portion of the sides or faces of the prisms which comprise the surface are curved. See, *Olczak*, page 2, paragraph 22, lines 1-4. "The curvature can be described as a segment of a parabola, or more generally as a polynomial surface. . . originating at a first reference point (b) at a base of the prism and terminating at a second reference point (a) near the peak of the prism." See, *Olczak*, page 2, paragraph 22, lines 3-11. Therefore, *Olczak* is entirely directed to a prism sheet with mere portions or segments that are curved. In contrast, the claimed expression represents an entire cross-sectional shape in the XZ plane such as a parabola or hyperbola. See, Specification, paragraph 16, lines 10-14; paragraph 19, lines 1-6. Nowhere does *Olczak* disclose or suggest an XZ cross-section that is entirely paraboloidal or hyperboloidal, nor does the Examiner cite support for such claimed element. As such, the cross sectional shape in the XZ plane of the prisms of *Olczak* cannot satisfy the claimed expression. Therefore, Applicants respectfully submit that *Olczak* fails to disclose or suggest a plurality of cylindrical lens elements wherein a cross sectional shape in the XZ plane of each of said cylindrical lens elements satisfies the claimed expression as required, in part, by independent claims 14 and 25-26.

Furthermore, the "z" element in the expression disclosed in *Olczak* represents the perpendicular deviation of a face of the prism from a reference line. See, *Olczak*, paragraph 23, lines 1-3. In contrast, the "Z" element in the claimed expression represents an axis taken in parallel to a normal line direction to said optical sheet. *Olczak* thus fails to disclose the claimed expression in which a Z axis is taken in parallel to a normal line direction to said optical sheet. Therefore, *Olczak* fails to disclose or suggest a plurality of cylindrical lens elements wherein if a Z axis is taken in parallel to a normal line direction to said optical sheet and an X axis is taken in a direction of the row of said cylindrical lens elements, a cross sectional shape in the XZ plane of each of said cylindrical lens elements satisfies the following expression:  $Z = X^2/(R + \sqrt{R^2 - (1 +$

$K)X^2)) + AX^4 + BX^5 + CX^6 + \dots$ , where R is the radius of curvature of a distal end vertex, K is a conic constant, and A, B, C, ... are aspheric coefficients in accordance with the present claims.

Accordingly, Applicants respectfully request that the rejection of Claims 14-17 and 25-26 under 35 U.S.C. §102(b) to *Olczak* be withdrawn.

In the Office Action, Claims 18-24 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Olczak* in view of U.S. Patent No. 6,332,691 B2 to Oda et al. ("*Oda*"). As discussed previously, *Olczak* fails to disclose or suggest a plurality of cylindrical lens elements wherein if a Z axis is taken in parallel to a normal line direction to said optical sheet and an X axis is taken in a direction of the row of said cylindrical lens elements, a cross sectional shape in the XZ plane of each of said cylindrical lens elements satisfies the following expression:  $Z = X^2/(R + \sqrt{R^2 - (1 + K)X^2}) + AX^4 + BX^5 + CX^6 + \dots$ , where R is the radius of curvature of a distal end vertex, K is a conic constant, and A, B, C, ... are aspheric coefficients as required, in part, by independent Claim 14 from which Claims 18-24 depend. The Examiner further relies on *Oda* merely for the disclosure of forming convex portions on the face of the optical sheet opposite the face on which the cylindrical lens elements are provided. See, Office Action, page 5, lines 7-23; page 6, lines 1-2. Thus, Applicants respectfully submit that *Oda* fails to remedy the deficiencies of *Olczak*.

Accordingly, Applicants respectfully request that the rejection of Claims 18-24 under 35 U.S.C. §103(a) to *Olczak* and *Oda* be reconsidered and withdrawn.

Applicants further note that Claims 27-31 have been newly added. The new Claims are fully supported in the Specification at, for example, paragraph 108, lines 1-5; paragraph 109, lines 1-7; paragraphs 123-129; paragraphs 139-142; paragraph 145, lines 1-4. No new matter has been added thereby. Applicants respectfully submit that the subject matter as defined in the newly added claims is patentable over the cited art for at least substantially the same reasons as discussed above.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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